

# **American Diabetes Association: ADA & Risk Factor Management**

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# Risk factors for type 2 diabetes # 1

- Age  $\geq$  45 years
- Overweight (BMI  $\geq$  25 kg/m<sup>2</sup>)
- Family history (1<sup>st</sup> degree relative)
- Physical inactivity
- Member of high risk ethnic group
- Previously identified pre-diabetes (IFG or IGT)

## Risk factors for type 2 diabetes # 2

- History of GDM or baby > 9 lbs
- Hypertension (BP > 140/90 mm Hg)
- HDL  $\leq$  35 mg/dl and/or triglyceride level  $\geq$  250 mg/dl
- PCOS
- History of vascular disease

# **The Diabetes Prevention Program**

**A Randomized Clinical Trial  
to Prevent Type 2 Diabetes  
in Persons at High Risk**

**The DPP Research Group**



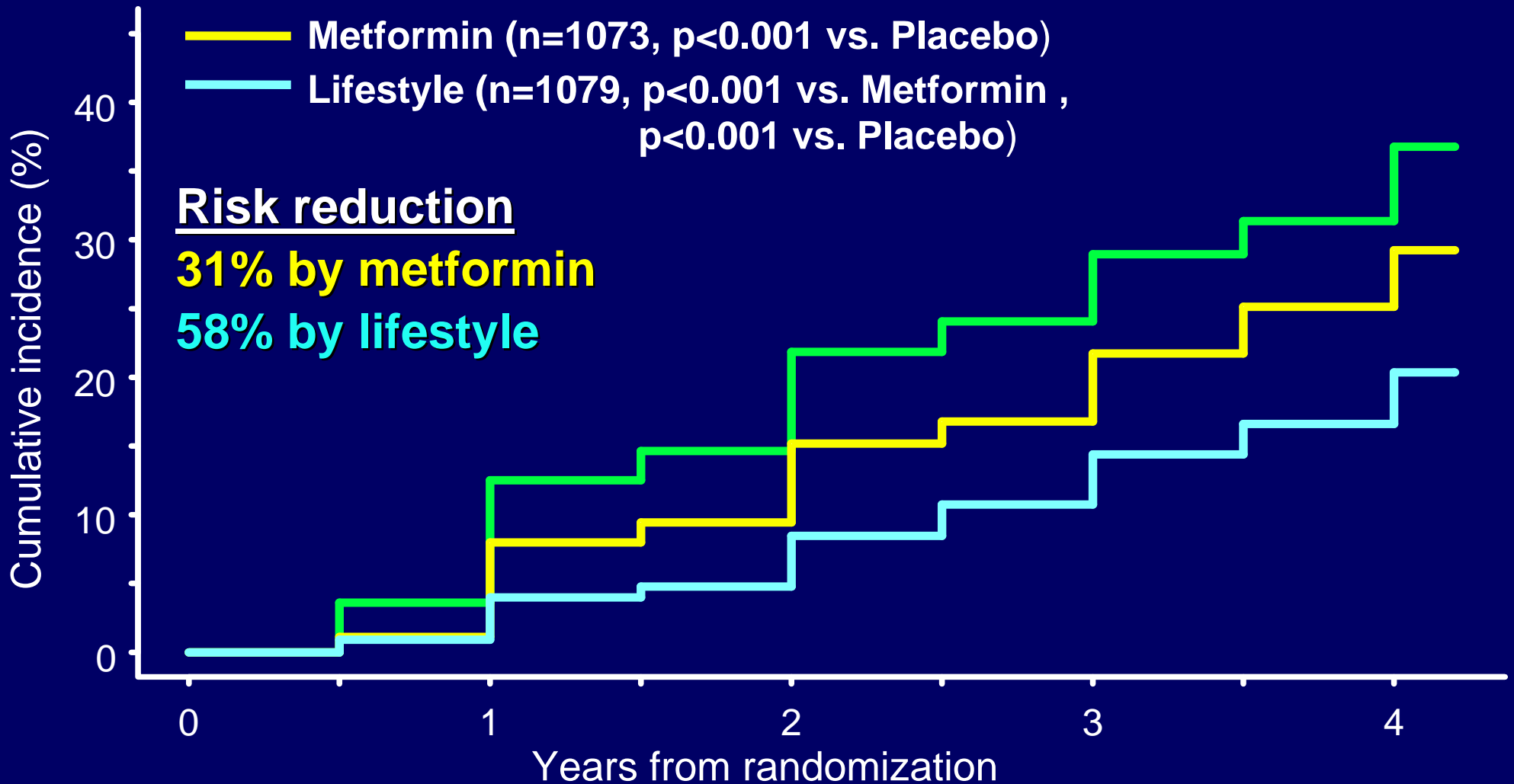
# Incidence of Diabetes

- Placebo (n=1082)
- Metformin (n=1073,  $p < 0.001$  vs. Placebo)
- Lifestyle (n=1079,  $p < 0.001$  vs. Metformin,  $p < 0.001$  vs. Placebo)

## Risk reduction

**31% by metformin**

**58% by lifestyle**



# ADA recommendations to delay/prevent DM # 1

- Individuals at high risk need to understand the benefits of weight loss / exercise
- Screening: Consider if  $\geq 45$  years of age, particularly if BMI  $\geq 25$  kg/m<sup>2</sup>
  - Consider screening at younger ages if BMI  $\geq 25$  and additional risk factors
- If normoglycemia, rescreen at 3 year intervals

# ADA recommendations to delay/prevent DM # 2

## ■ Screen

- As part of health care visit
- Use either FPG or 2H PG
- Confirm if positive on another day
- If pre-diabetes confirmed, screen for DM every 1-2 years

# ADA recommendations to delay/prevent DM # 3

## ■ Intervention

- Counseling on weight loss and increased physical activity
- Follow-up counseling important
- Treat other CVD risk factors (tobacco, HTN, dyslipidemia)
- Drug therapy should not be used routinely



# Categories of Fasting Plasma Glucose

| Category       | FPG (mg/dl) |
|----------------|-------------|
| Normal         | $< 100$     |
| Impaired (IFG) | 100 - 125   |
| Diabetes       | $\geq 126$  |

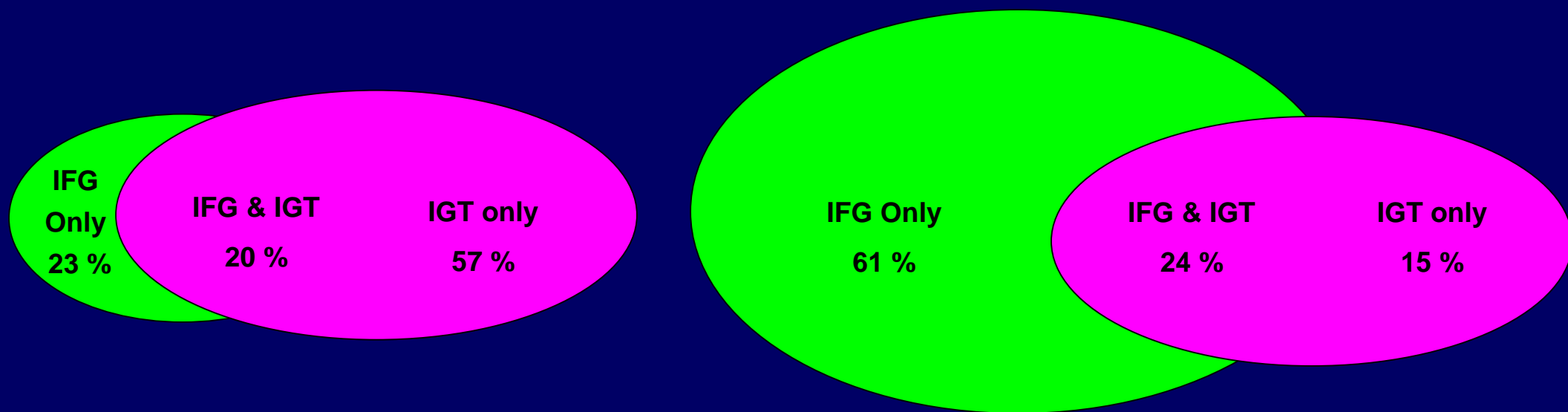
# Categories of 2 H OGTT Plasma Glucose Levels

| Category       | FPG (mg/dl) |
|----------------|-------------|
| Normal         | < 140       |
| Impaired (IGT) | 140 - 199   |
| Diabetes       | $\geq$ 200  |

# Pre-diabetes

- **Affects ~ 41 million in US**
- **Significantly increased risk of developing diabetes**
- **Increased risk of CVD**
- **Diagnosis**
  - **Impaired Fasting Glucose (IFG) or**
  - **Impaired Glucose Tolerance (IGT)**

# Pre-Diabetes: Old vs. New Criteria



Estimates based on IFG (110-125 mg/dl); total pop. w/pre-diabetes=19.9 million

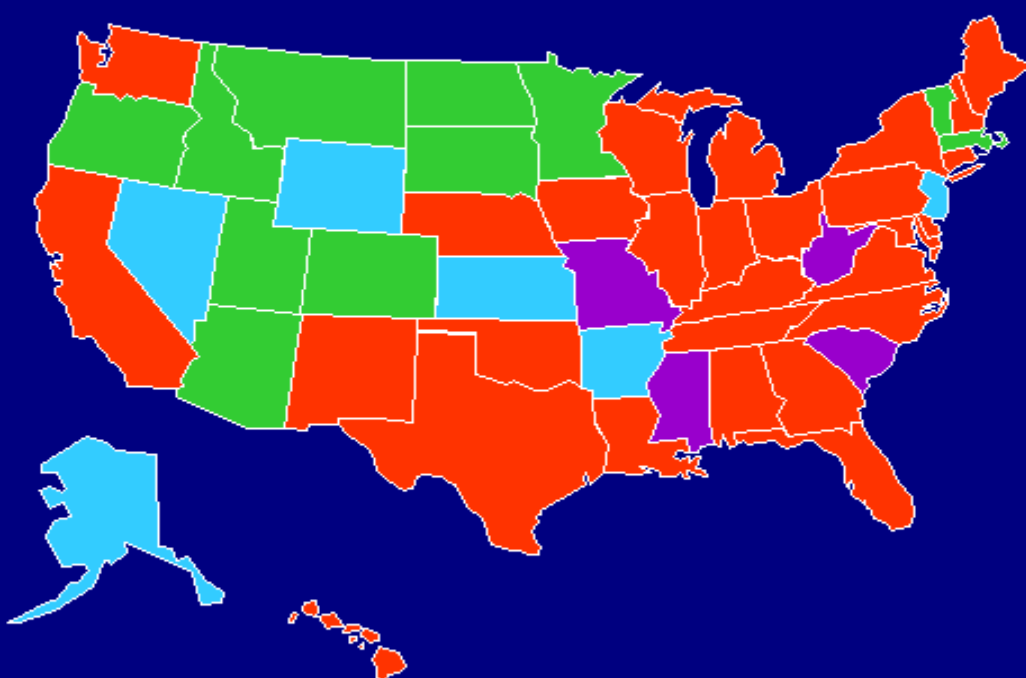
Estimates based on IFG (100-125 mg/dl); total pop. w/pre-diabetes=41 million



# Prevalence of Diabetes in the United States



1990



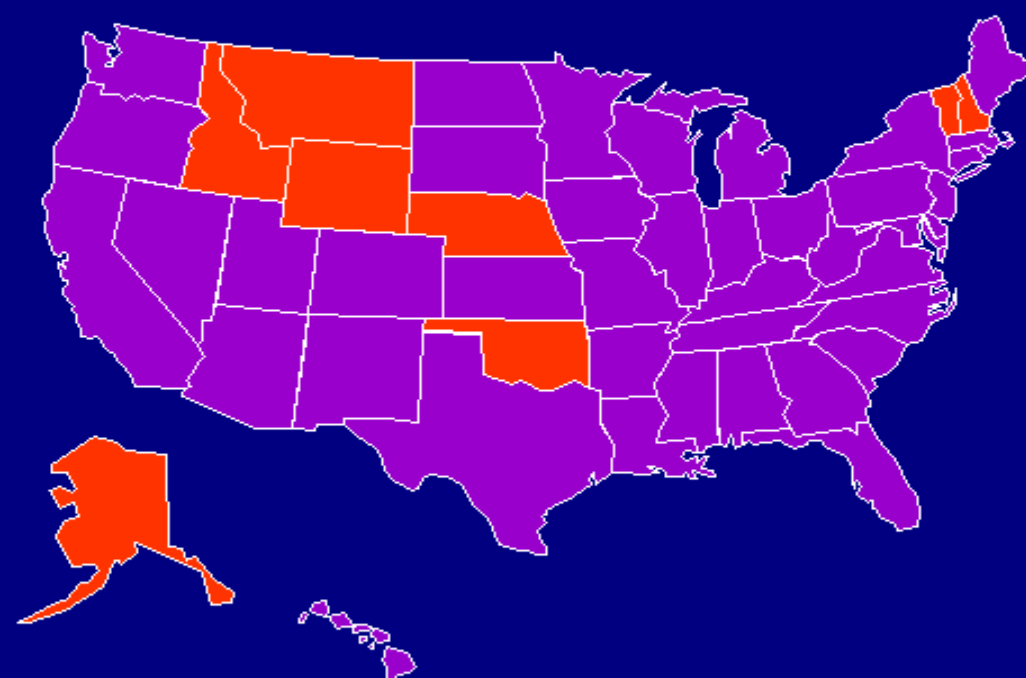
■ No Data

■ <4%

■ 4%–6%

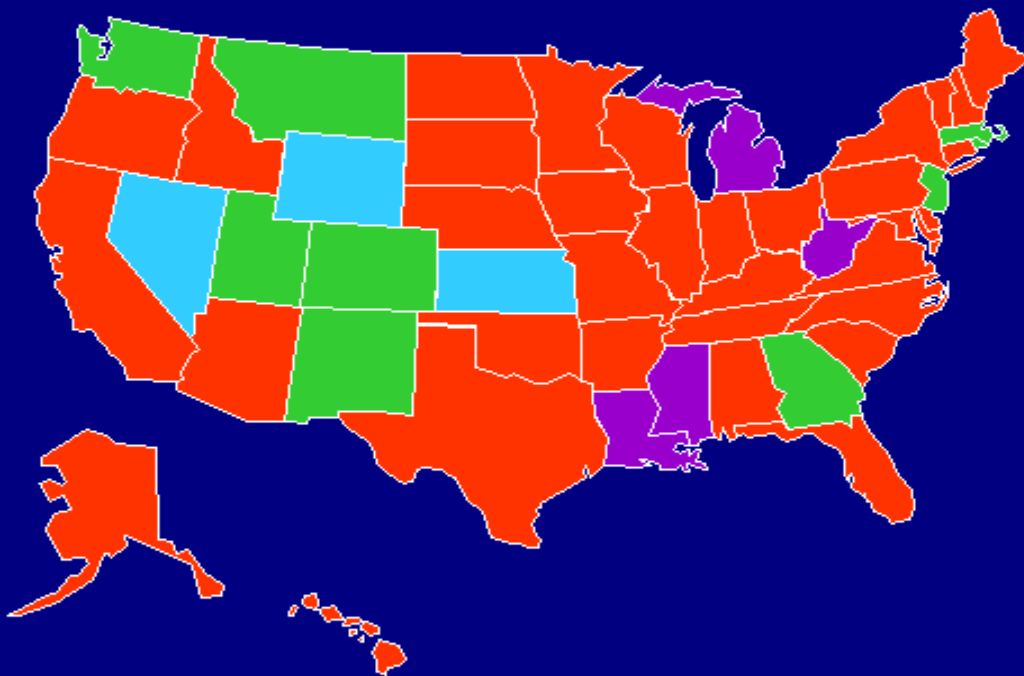
■ >6%

2000

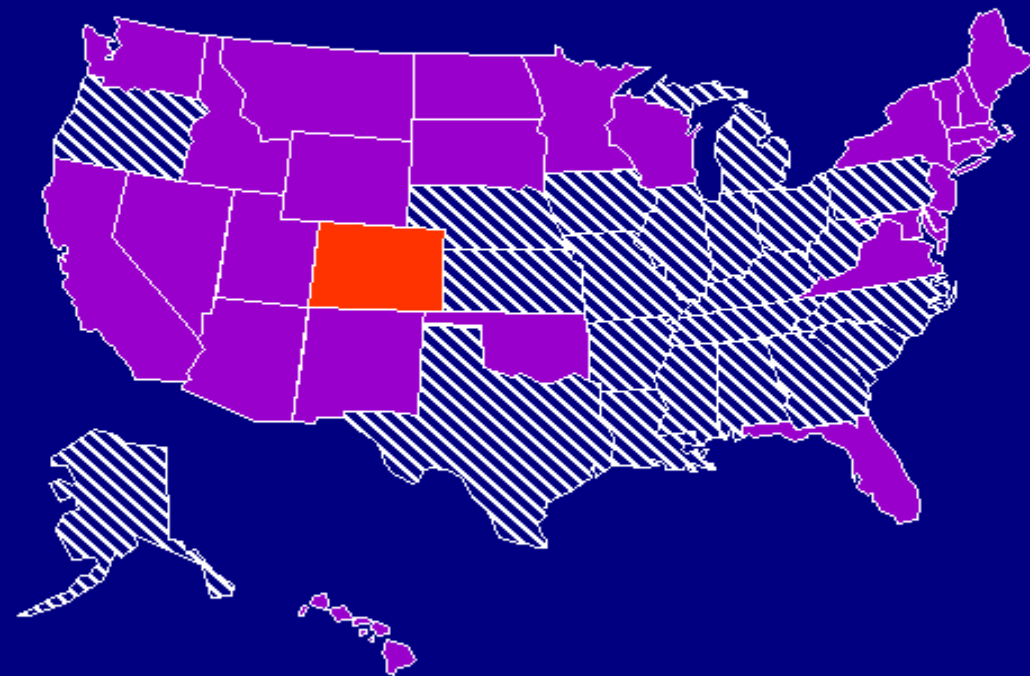




1991



2000



■ No Data

■ <10%

■ 10%–14%

■ 15%–19%

  $\geq 20\%$

# **Shaping America's Health: Association for Weight Management & Obesity Prevention**

# Shaping America's Health

- American Diabetes Association
- North American Association for the Study of Obesity (NAASO)
- Shaping America's Youth



# Shaping America's Youth (SAY)

- A public / private initiative to describe what is being done in all sections of society to reverse the current trend of overweight / obesity in children

# Shaping America's Health

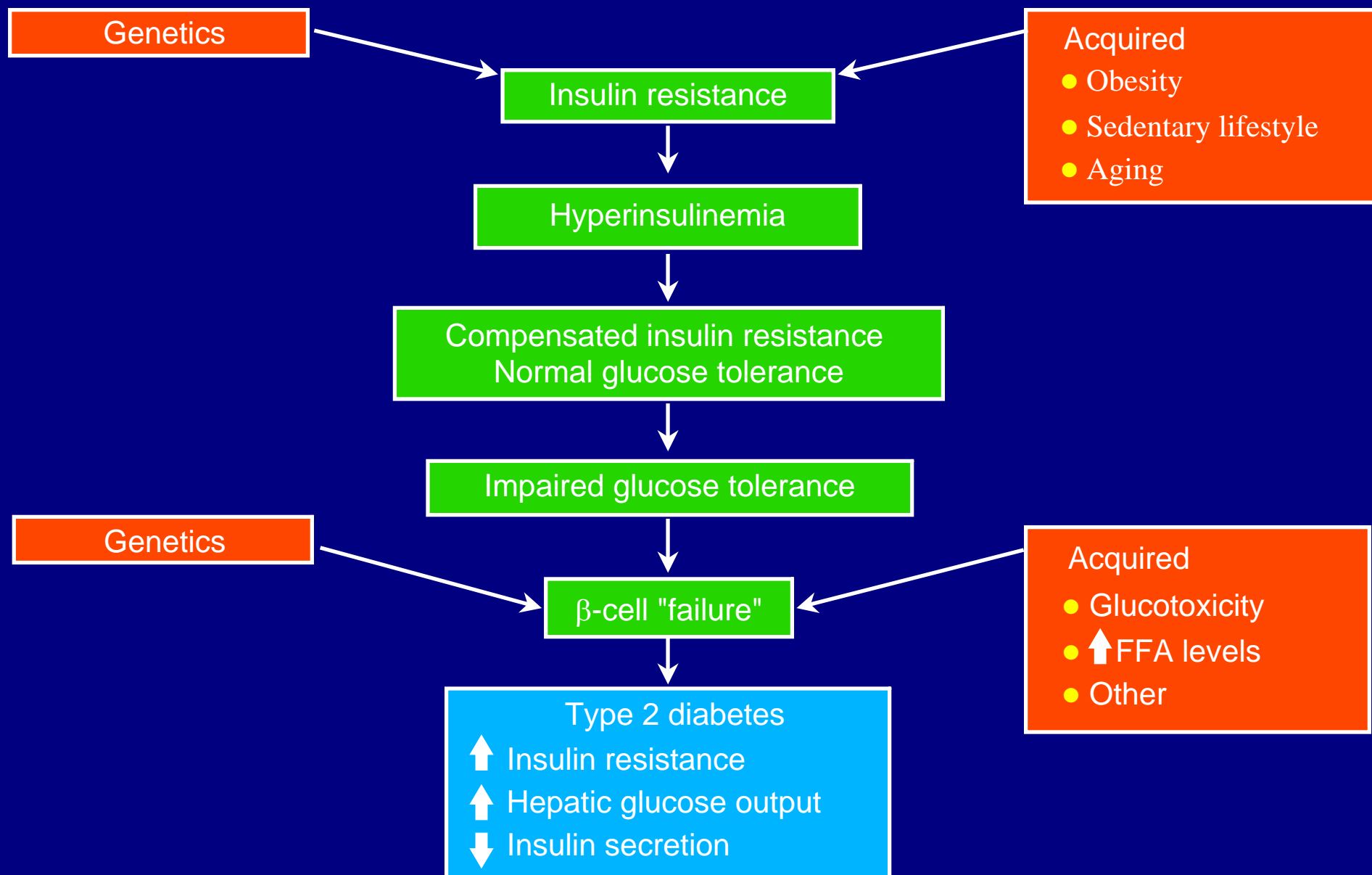
## ■ Scientific issues

- Clinical guidelines
- Conferences on the science & medicine of overweight/obesity
- Medical education

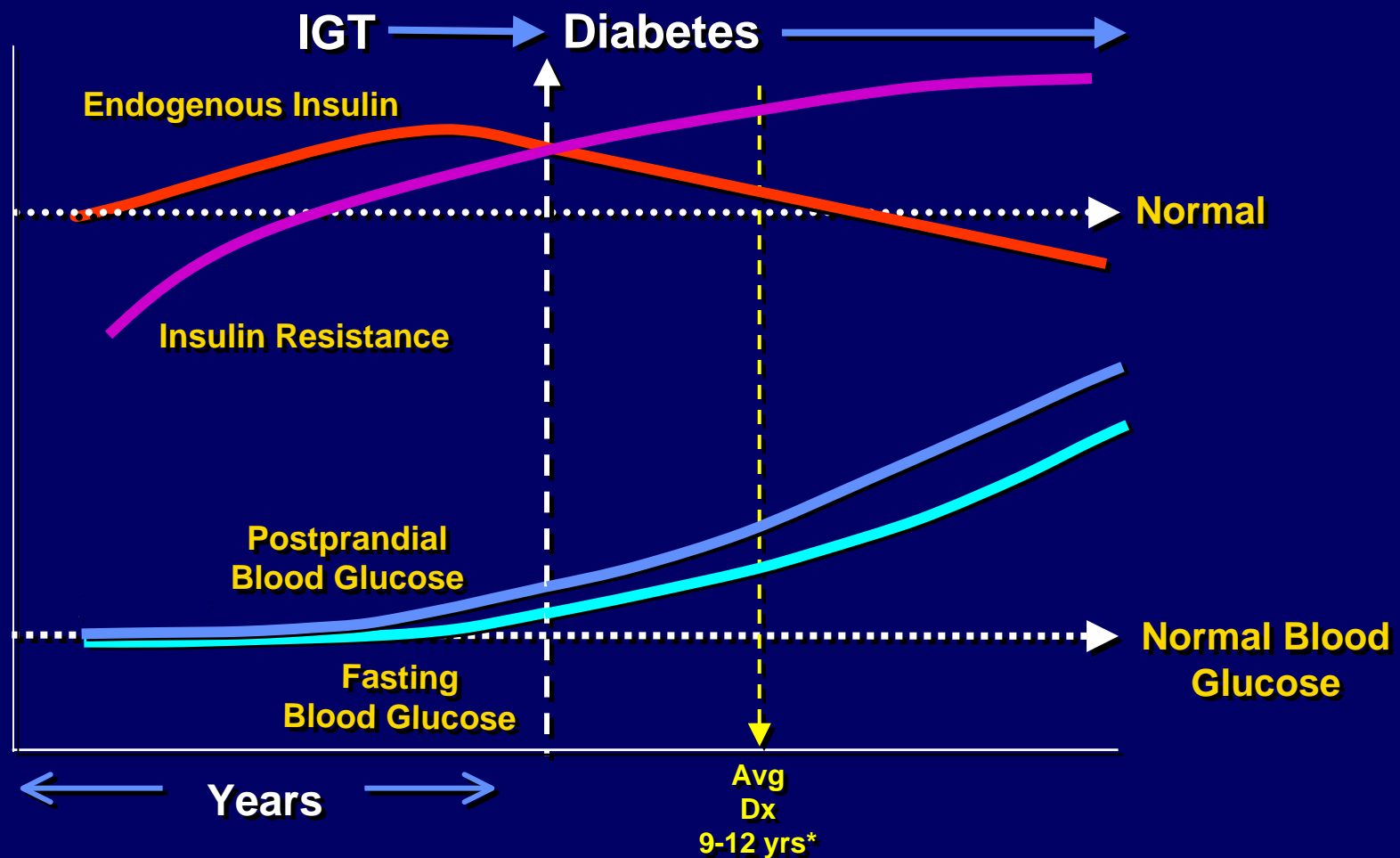
## ■ Community action (with SAY)

- Town meetings to discuss community mobilization and share “best practices”

# Progression to Type 2 Diabetes



# Progressive Nature of Type 2 Diabetes



# **Insulin Assay Standardization Work Group**

**Chair: Michael Steffes, MD, PhD**

**Staff: Scott Campbell, PhD**

# Insulin Assay Standardization Work Group

- Devised protocols to determine the reproducibility & specificity of each assay
- Most manufactures of insulin assays participated and assayed samples provided
- Recommendations will be published describing what criteria assays must meet to be “insulin specific”
- Clinical advisory group to be formed to recommend how insulin assays should be used